IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:

ITABA et al.

Application No. 09/712,175

Filed: November 15, 2000

Art Unit: 2673

Examiner: M. Said

For: PERIPHERAL DEVICE OF A
PROGRAMMABLE CONTROLLER
AND MONITORING METHOD OF THE
PERIPHERAL DEVICE

TRANSMITTAL OF
APPELLANTS' APPEAL BRIEF

U.S. Patent and Trademark Office
220 20th Street S. Customer Window, Mail Stop Appeal Brief - Patents
Crystal Plaza Two, Lobby, Room 1B03
Arlington, VA 22202

Dear Sir:

In accordance with 37 CFR 41.37, appellants hereby submit Appellants' Brief on Appeal.

The items checked below are appropriate:

1. **Status of Appellants**

   This application is on behalf of ☒ other than a small entity or ☐ a small entity.

2. **Fee for Filing Brief on Appeal**

   Pursuant to 37 CFR 41.20(2), the fee for filing the Brief on Appeal is for: ☒ other than a small entity or ☐ a small entity.

   Brief Fee Due $340.00

3. **Oral Hearing**

   ☐   Appellants request an oral hearing in accordance with 37 CFR 41.47.

   A separate paper requesting oral hearing is attached.

4. **Extension of Time**

☐   Appellants petition for a one-month extension of time under 37 CFR 1.136, the fee for which is $110.00.

☒   Appellants believe that no extension of time is required. However, this conditional petition is being made to provide for the possibility that appellants have inadvertently overlooked the need for a petition and fee for extension of time.

Extension fee due with this request: $

5.   Total Fee Due

The total fee due is:

Brief on Appeal Fee	$340.00
Request for Oral Hearing	$ 0.00
Extension Fee (if any)	$ 0.00

Total Fee Due: $340.00

6.   Fee Payment

☐   Attached is a check in the sum of $.

☒   Charge Account No. 12-1216 the sum of $340.00. A duplicate of this transmittal is attached.
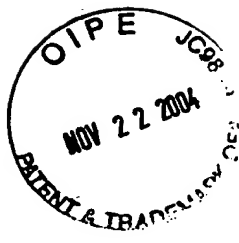
7.   Fee Deficiency.

☒   If any additional fee is required in connection with this communication, charge Account No. 12-1216. A duplicate copy of this transmittal is attached.

Respectfully submitted,

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Date: _____
AWF:tps

Appeal Brief Transmittal (Revised 10/1/04)

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Dear Sir:

In support of the appeal from the final rejection dated April 21, 2004, Appellants now submit their Brief.

Real Party In Interest

The patent application that is the subject of this appeal is assigned to Mitsubishi Denki Kabushiki Kaisha.

Related Appeals and Interferences

There are no appeals or interferences that are related to this appeal.

Status of Claims

This application was filed with 16 claims. Claim 17 was added in a Preliminary Amendment. Claims 1-17 remain pending. No claim is allowed and the final rejection of all claims is appealed. The claims on appeal appear on the Claims Appendix.

Status of Amendments

A Response, but no amendment, was filed after final rejection. An Advisory Action indicated that the Response was considered.

Summary of Claimed Subject Matter

Conventionally, peripheral devices are used in conjunction with a programmable controller to, for example, develop or debug programs for the programmable controller. In order to develop or debug these programs, it is advantageous to execute monitoring processes on the programmable controller. The processing results of the monitoring processes are then displayed in windows of a display of the peripheral device, to aid a developer in developing or debugging the program. However, traditionally, the processing results are all updated uniformly. This uniform updating results in the problem that, as the number of monitoring processes increases, the updating rate of the processing results decreases due to the increase in frequency of data communications between the programmable controller and the peripheral device.

The present invention is directed to a system and method for monitoring a programmable controller by a peripheral device, in which the processing results of different monitoring processes are output at respective periods, i.e., at periods specific to the monitoring process/programmable controller. The system according to claim 1 includes a display means (Figure 1, element 9) on which a plurality of windows are displayed, and a managing means (Figure 1, element 7). The managing means outputs, to programmable controllers (Figure 1, element 1), corresponding to the windows of the display, processing requests that request execution of monitoring processes in the programmable controllers. The managing means also outputs to the windows, when receiving a processing result of the monitoring processes in the program controllers that are based on the processing requests, the processing result received. The processing requests are output at output periods that are different for respective programmable controllers corresponding to the respective windows (see Figures 1 and 2, and page 28, line 11 to page 32, line 8 of the patent application).

Claim 11, which embodies a monitoring method of the peripheral device to which claim 1 is directed, provides for outputting processing requests that request execution of monitoring processes in programmable controllers corresponding to respective windows being displayed on display means. The processing requests are output to the programmable controllers at output periods that are different for the respective programmable controllers. In

response to the processing requests, based on the output periods, processing results of the monitoring processes in the programmable controllers based on the processing requests, are received. Then, the processing results received are output to the windows (see Figures 1 and 2 and page 28, line 11 to page 32, line 8 of the patent application).

The identification of elements of embodiments illustrated in the patent application is supplied only to conform to 37 CFR 41.37(c)(1)(v) and does not limit the scope of the claimed subject matter. The display means of the claims corresponds to the display 9 and the input means corresponds to the mouse 10 and keyboard 11 as shown in Figure 1 of the patent application and described at page 29, lines 3 and 4. The managing means is shown in Figure 1 and described as to its constituents at page 29, lines 4-11. The managing means is part of a personal computer peripheral device, see page 26, lines 20-23, i.e., is a computer-related structure including computer attributes. The pending method claims are not within the ambit of 35 USC 112, paragraph 6.

Grounds of Rejection to be reviewed on Appeal

Claims 1-8, 10 and 12-17 stand rejected under 35 U.S.C. § 102(b) as anticipated by Fukuda et al. (US Patent 6,163,318, hereinafter "Fukuda").

Claims 9 and 11 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Fukuda and Ho et al. (US Patent 5,739,821, hereinafter "Ho").

Argument

The rejection of claims 1-8, 10, and 12-17 as anticipated by Fukuda is erroneous. It is fundamental that to anticipate a claim, the applied reference must teach every limitation of the rejected claim. Fukuda fails to teach every limitation of claims 1-8, 10, and 12-17.

The rejection of claims 9 and 11 as unpatentable over Fukuda and Ho is erroneous. It is fundamental that to establish *prima facie* obviousness, the applied references must teach or suggest all of the limitations of the rejected claims. No combination of Fukuda and Ho teaches or suggests all of the limitations of claims 9 and 11.

Moreover, the rejection of claims 12-17 is legally erroneous. Claim 11 is rejected as obvious over the combination of Fukuda and Ho, whereas claims 12-17, which depend from claim 11, are rejected as anticipated by Fukuda. If Fukuda does not anticipate claim 11, then Fukuda cannot anticipate those claims that depend from claim 11, namely claims 12-17.

Accordingly, the rejection of claims 12-17 as anticipated is legally erroneous and must be reversed. The arguments against the rejection of claims 12-17 proceed under the assumption that the Examiner intended to reject claims 12-17 as unpatentable over the combination of Fukuda and Ho.

Fukuda Fails to Teach Every Element of Claim 1

In rejecting claim 1 as anticipated, the Examiner's asserted that the windows management section 3 of Fukuda corresponds to the managing means of claim 1, that the window management table 5 of Fukuda corresponds to a monitoring process that monitors the overlapping state of windows, and that the windows management section 3 of Fukuda outputs requests to detect the overlapping state of windows at different periods for each displayed window. The Examiner contends that Fukuda teaches every limitation of claim 1, namely a "managing means for outputting, to programmable controllers corresponding to the windows [of a display], processing requests that request execution of monitoring processes in the programmable controllers, and for, when receiving a processing result of the monitoring processes in the program controllers that are based on the processing requests, outputting the processing result received to the windows, wherein the processing requests are output at output periods that are different for the respective programmable controllers corresponding to the respective windows." However, as explained below, using the Examiner's construction, or any other construction of the claim language in view of Fukuda, Fukuda cannot teach every limitation of claims 1-8, 10 and 17.

"Processing Requests Are Output At Output Periods"

The language of claim 1 requires that the managing means output processing requests, which request the execution of a monitoring process, to programmable controllers periodically, i.e., at output periods (the Examiner erroneously contends there is a distinction between 'periodically' and 'at output periods'). The Examiner apparently argues that the "processing requests" of claim 1 are taught by a request to detect the overlapping state of windows in Fukuda (see the Official Action of April 21, 2004, citing column 5, lines 15-67 of Fukuda). However, Fukuda only detects the overlapping state of windows (S21 of Figures 6 and 7 of Fukuda) when a new window is initialized (S2 of Figure 3 of Fukuda) or when a window graph needs to be displayed, due to an update in the windows management table resulting from movement (Figure 10 of Fukuda), resizing (Figure 11 of Fukuda), or inversion (Figure 16 of Fukuda) of the window. Thus, an overlapping state is not detected according to

a periodic request, but is instead detected only when a new window is added or an existing window is altered (see column 5, lines 4-36 of Fukuda). Accordingly, Fukuda does not output periodic processing requests, and thus cannot teach this limitation of claims 1-8, 10, and 17.

"Output Periods That Are Different For The Respective Programmable Controllers"

The language of claim 1 requires that the managing means output processing requests which request the execution of a monitoring process, at output periods that are different for each programmable controller corresponding to each window. The Examiner argues that the processing requests of the present invention are taught by a request to detect the overlapping state of windows in Fukuda (see the Official Action of April 21, 2004, citing column 5, lines 15-67 of Fukuda). However, the detection of the overlapping state of windows is not performed in Fukuda at a different period for each respective window. In the process of Fukuda, the overlapping state of each of the windows is checked at the same time, i.e. when the window graph is displayed (see S21 of Figs. 6 and 7 of Fukuda). Thus, even if Fukuda did check the overlapping state of windows periodically, which it does not, the detection requests are output at the same hypothetical output period for each respective window, because the overlapping state for all windows is determined from a single read of the window management table 5 (see Figure 5 of Fukuda). Accordingly, Fukuda cannot teach this limitation of claims 1-8, 10 and 17.

"Output... To Respective Windows

The language of claim 1 further requires that managing means output the processing result of each monitoring process to a respective window, each window corresponding to the programmable controller on which the monitoring process was executing. In Fukuda, the processing result, i.e., the overlapping state of each window, is output in the form of a window graph. The overlapping state for all windows is displayed in this window graph. The overlapping state for each window is not displayed in a window corresponding to a programmable controller (see column 4, lines 47-50 of Fukuda). Fukuda plainly fails to teach this limitation of claims 1-8, 10 and 17.

Because Fukuda fails to disclose all three of the enumerated features of claim 1, Fukuda cannot anticipate any of claims 1-8, 10 and 17.

Fukuda Fails To Teach Every Limitation of Claim 2

"Input Means Setting The Output Period Of Processing Requests"

Claim 2 requires an input means for setting the output period of processing requests. Applicants concede that Fukuda teaches an input section (Figure 1, element 1 of Fukuda); however, in no way does Fukuda disclose using the input section to set the period for anything. The Examiner contends this limitation is taught by Figures 1, 6, and 7 in combination with portions of columns 4 and 5 of Fukuda. However, there is no support in Fukuda for the Examiner's assertion. This feature of claim 2, which has a parallel method step in claim 12, is simply absent from Fukuda.

Fukuda Fails To Teach Every Limitation of Claims 6 and 7

"A Timer For Measuring A Time During Which An Arbitrary Window Is Selected"

In the Amendment filed February 2, 2004, Applicants argued with respect to claim 6 that Fukuda does not teach a timer of any kind. The Examiner attempted to rebut this contention by noting that Fukuda discloses a "subroutine program forming the process of the windows in steps at a time formation," citing column 4, lines 51-57 of Fukuda. The only relevance the cited disclosure has to claims 6 and 7 is that it includes the word "time." Nothing in Fukuda teaches a device for measuring time. Moreover, even if Fukuda taught a timer, Fukuda clearly fails to teach a timer for measuring a time during which an arbitrary window is selected. Fukuda clearly cannot anticipate claims 6 and 7, both of which recite the timer.

The Rejection Of Claims 3-5, 8, 9, and 17 Is Erroneous

The propriety of the rejection of claims 3-5 and 8 depend upon the propriety of the rejection of claim 1. As previously argued, the rejection of claim 1 is erroneous. Accordingly, the rejections of claims 3-5 and 8 are also erroneous.

The rejection of claims 9 and 17 relies on the assertion that Fukuda teaches all of the limitations of claim 1. As previously argued, the Fukuda fails to teach every limitation of claim 1. Accordingly, the rejection of claim 9 is also erroneous

The Combination of Fukuda and Ho Fails to Teach Every Limitation of Claim 11

"Outputting Processing Requests... At Output Periods That Are Different For Respective Programmable Controllers"

As noted above, Fukuda does not teach or suggest this limitation, contrary to the assertions of the Examiner. Moreover, Ho also fails to teach or suggest the limitations not taught by Fukuda. Ho is directed to a method for using a mouse with a two-dimensional control button to select a window frame in a pointing path of a cursor controlled by the two-dimensional control button. The Examiner contends that Ho teaches outputting processing requests at output periods that are different for respective windows. That contention is simply incorrect. Ho discloses only the display of window frames and icons, and the updating of displayed window frames and icons based on selection by the pointer. Nothing in Ho teaches or suggests periodically updating windows in response to a periodic processing request, wherein the period is different for respective programmable controllers and their corresponding windows (see column 5, lines 1-50 and column 8, lines 17-67 of Ho, as cited by the Examiner). In fact, Ho does not mention a period at all. Nor does Ho disclose anything that could be construed as a programmable controller corresponding to the windows in Ho. Thus, the combination of Fukuda and Ho cannot teach or suggest every limitation of claim 11. Accordingly, *prima facie* obviousness has not been established, and the rejection should be withdrawn.

The Combination of Fukuda and Ho Fails To Teach Every Limitation of Claim 12

"Input Means Setting The Output Period Of Processing Requests"

Claim 12 requires an input means for setting the output period of processing requests. Applicants concede that Fukuda teaches an input section (Figure 1, element 1 of Fukuda); however, in no way does the combination of Fukuda and Ho teach or suggest using the input section to set the period for anything. The Examiner contends this limitation is taught by Figures 1, 6, and 7 in combination with portions of columns 4 and 5 of Fukuda. However, there is no support in Fukuda for the Examiner's assertion. Nor is there any support in Ho for the recited input means for setting the output period. This feature is simply not taught or suggested by the combination of Fukuda and Ho.

The Combination of Fukuda and Ho Fails To Teach Every Limitation of Claim 15

"Measuring A Time During Which An Arbitrary Window Is Selected"

As argued above with respect to claims 6 and 7, Fukuda fails to teach or suggest measuring a time during which an arbitrary window is selected, as recited in claim 15. Ho also fails to teach or suggest this limitation. The Examiner attempted to rebut this contention by noting that Fukuda discloses a "subroutine program forming the process of the windows in steps at a time formation," citing column 4, lines 51-57 of Fukuda. The only relevance the cited disclosure has to claim 15 is that it includes the word "time." Nothing in Fukuda teaches a device for measuring time. Moreover, even if Fukuda taught a timer, Fukuda clearly fails to teach a timer for measuring a time during which an arbitrary window is selected. Thus, the combination of Fukuda and Ho clearly fails to teach or suggest claim 15.
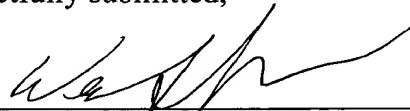
The Rejection Of Claims 13, 14 and 16 Is Erroneous

The propriety of the rejection of claims 13, 14 and 16 depends upon the propriety of the rejection of claim 11. As previously argued, the rejection of claim 11 is erroneous. Accordingly, the rejection of claims 13, 14, 16, and 17 is also erroneous.

Summary

Assuming that the Examiner rejected claims 1-8, 10, and 17 as anticipated by Fukuda and the remaining claims as obvious over Fukuda in view of Ho, the rejections must be reversed since the elements of the rejected claims are neither disclosed nor suggested in those publications.

Respectfully submitted,

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Date: _Nov. 22, 2004_
AWF:tps

Claims Appendix

1. A peripheral device of a programmable controller, comprising:

display means on which a plurality of windows are displayed; and

managing means for outputting, to programmable controllers corresponding to the windows, processing requests that request execution of monitoring processes in the programmable controllers, and for outputting, when receiving a processing result of the monitoring processes in the program controllers that are based on the processing requests, the processing result received to the windows, wherein the processing requests are output at output periods that are different for the respective programmable controllers corresponding to the respective windows.

2. The peripheral device of a programmable controller according to claim 1, comprising input means in which the output periods of the processing requests that are output from the managing means are set for the respective programmable controllers corresponding to the respective windows, wherein the managing means outputs the processing requests to the programmable controllers based on the output periods that have been set in the input means.

3. The peripheral device of a programmable controller according to claim 1, comprising input means for selecting an arbitrary window from the plurality of windows, wherein the managing means outputs a processing request only to a programmable controller corresponding to the selected window.

4. The peripheral device of a programmable controller according to claim 1, comprising input means for selecting an arbitrary window from the plurality of windows, wherein the managing means switches the output period of the processing request that is output to the programmable controller in accordance with whether the programmable controller corresponds to the window that has been selected by the input means.

5. The peripheral device of a programmable controller according to claim 4, wherein an output period of a processing request that is output to a programmable controller corresponding to the window that has been selected by the input means is shorter than an output period of a processing request that is output to a programmable controller corresponding to a window that has not

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been selected.

6 .The peripheral device of a programmable controller according to claim 1, comprising:

input means for selecting an arbitrary window from the plurality of windows; and

a timer for measuring, for each of the plurality of windows, a time during which the arbitrary window is selected by the input means, wherein the managing means outputs the processing requests to the respective programmable controllers corresponding to the respective windows at output periods that are based on the times that have been measured by the timer.

7. The peripheral device of a programmable controller according to claim 6, wherein the output period of the processing request that is output to the programmable controller corresponding to the arbitrary window is obtained by selecting a maximum value from the times during which the respective windows have been selected by the input means and that have been measured by the timer, dividing the selected maximum value by the time of the arbitrary window, and multiplying a resulting quotient by a reference period that is input through the input means.

8. The peripheral device of a programmable controller according to claim 1, comprising:

input means for specifying a portion of a window wherein the managing means outputs a processing request that requests execution, by the programmable controller, of a monitoring process relating only to the portion of the window specified, and receives a processing result of the monitoring process of the programmable controller that relates only to the portion of the window specified, based on the processing request.

9. The peripheral device of a programmable controller according to claim 8, wherein the portion of the window specified is a portion where an output result is indicated.

10. The peripheral device of a programmable controller according to claim 1, wherein the processing results of the monitoring processes in the programmable controllers that are output to the windows are updated at updating periods that are different for the respective programmable controllers based on the output periods of the processing requests that were output from the managing means to the programmable controllers.

11. A method of monitoring a peripheral device of a programmable controller, comprising:

outputting processing requests that request execution of monitoring processes in programmable controllers corresponding to respective windows being displayed on display means to the programmable controllers at output periods that are different for the respective programmable controllers;

receiving, based on the output periods, processing results of the monitoring processes in the programmable controllers that are based on the processing requests; and

outputting the processing results received to the windows.

12. The method of monitoring a peripheral device of a programmable controller according to claim 11, comprising setting, with input means, the output periods of the processing requests for the respective programmable controllers corresponding to the respective windows, wherein the processing requests are output based on the output periods that have been set with the input means.

13. The method of monitoring a peripheral device of a programmable controller according to claim 11, comprising selecting, with input means, an arbitrary window from the plurality of windows, wherein the processing requests are output only to a programmable controller corresponding to the window selected.

14. The method of monitoring a peripheral device of a programmable controller according to claim 11, comprising selecting, with input means, an arbitrary window from the plurality of windows, wherein the processing requests are output while switching the output period of the processing request that is output to the programmable controller in accordance with whether the programmable controller corresponds to the window that has been selected with the input means.

15. The method of monitoring a peripheral device of a programmable controller according to claim 11, comprising:

selecting, with input means, an arbitrary window from the plurality of windows; and

measuring and accumulating, with a timer, for each of the plurality of windows, a time during which the arbitrary window is selected with the input means, wherein the processing requests are output at output periods that are based on the times that have been

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measured with the timer.

16. The method of monitoring a peripheral device of a programmable controller according to claim 11, comprising specifying, with input means, a portion of a window, wherein the processing request that requests a programmable controller corresponding to the window having the portion specified is output to execute a monitoring process relating to the portion specified.

17. The peripheral device of a programmable controller according to claim 8, wherein the processing results of the monitoring processes in the programmable controllers that are output to the windows are updated at updating periods that are different for the respective programmable controllers based on the output periods of the processing requests that were output from the managing means to the programmable controllers.

Evidence Appendix

No evidence was submitted pursuant to 37 CFR 1.130, 1.131, or 1.132.

Related Proceedings Appendix

There are no Related Proceedings.